Gender Inequity in Moroccan Secondary Education: A Mixed Methods Case Study

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Abstract:

In this mixed methods study, a private K-12 Moroccan school serves as a case study for examining lagging secondary education attainment for female students in low and lower-middle income countries. Through the use of questionnaires, interviews, and classroom observation, this study examines educators' expectations for students, classroom instruction and interactions, and student aspirations in a group of students preparing to transition from primary to secondary education. Although educators are found to have similar expectations for their students and to offer equitable learning opportunities in the classroom for boys and girls, there is a mismatch for many male and female students between what they would prefer to study in secondary education and what their families and society value. These findings suggest that Morocco's secondary education tracking system may be contributing to lower educational attainment for both male and female students.

Keywords: gender inequity, Morocco, secondary education, tracking

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Despite recent gains for women in low and lower-middle income countries[1], many nations still struggle to address gender inequalities, including female educational attainment (World Bank, 2013). Gender equality is a human right (United Nations, 1945) and thus a worthy goal for all nations. In addition to being a right, there are a number of national benefits of gender equality. Past research has consistently demonstrated a number of benefits of educating women. Women with higher education levels participate more in the workforce (Chamlou, Muzi, & Ahmed, 2011) and as a result, experience increases in per capita income (Baliamoune-Lutz & McGillivray, 2015). One study found that a 1% increase in the share of women who have completed secondary education results in a 0.3% increase in a nation's per capita income (Rihani, 2006). Female education also combats acts of violence and terrorism (Monshipouri & Karbasiou, 2003) along with other criminal behaviors (Stromquist, 2007). Specifically, increased rates of secondary education are correlated with lower rates of human trafficking (Rihani, 2006). When mothers are educated, their children are more likely to attend school as well (Filmer, 2000). Other social benefits to women's education include improved maternal and child health, increased life expectancy, and reduced fertility rates (Stromquist, 2007). This combined research suggests that when a country's women are educated, the entire nation benefits.

In addition to these nationwide benefits, there are personal benefits to women who complete secondary education. Higher rates of secondary education completion in less developed nations are tied to smaller family sizes and reduced infant mortality rates (Subbarao & Raney, 1995). Women who complete secondary education are also less likely to become married as children (Subbarao & Raney, 1995). If all girls completed secondary education in low and lower-middle income nations, it is estimated that child marriage rates would be reduced by 64%, and 59% fewer girls would become mothers prior to reaching the age of 18 (UNESCO, 2013). When women complete secondary education, they are far more likely to be employed and their incomes increase (UNESCO, 2013). The pay gap between men and women also decreases when women have completed secondary education. In Pakistan and Jordan, for example, women with only a primary education make around 50% of what men do. With a secondary education, however, they can expect to make around 70% of what men make (UNESCO, 2013).

Although equality or near gender parity in primary school enrollment has been reached in the majority of nations, secondary education rates for women are lagging in many low and lower-middle income countries. Using a private K-12 school in Morocco as a case study, this study examines why female students lag behind their male peers in secondary education attainment. Although a number of factors have been purported to explain global gender disparities in education, I investigate Morocco's education system in order to determine whether there is something inherent to the system itself that explains why fewer girls are completing secondary education. I take a mixed methods approach to explore the experiences of Moroccan students transitioning from primary to secondary education. By taking a mixed methods approach, I am able to both identify broader trends across an entire school as well as delve into the more nuanced experiences and attitudes of individual students and educators.

[1] According to the World Bank (2016), low income nations are those with a Gross National Income per capita at or below $1,2056. Lower-middle income nations fall between $1,206 and $4,035.

Morocco as a Case Study

Morocco offers an ideal case to better understand the gaps in male and female secondary education attainment in low-income and lower-middle income countries. Although overall educational attainment has been improving in recent years, gender gaps in Morocco have been increasing despite a strong federal investment in education (Karim, Mansouri, Nachat, & Doumou, 2015). These gaps are largest among poor men and women (Filmer, 2000). Morocco is ranked 139th of 145 countries by the World Economic Forum's 2015 Gender Gap Index, a composite measure of gender equality in economic participation and opportunity, educational attainment, health and survival, and political empowerment. When specifically compared to 35 other lower-middle income nations, Morocco ranks 33rd in gender equality. Among other Middle Eastern and North African (MENA) countries, Morocco is 13th of 16, behind only Jordan, Syria, and Yemen. Literacy rates in Morocco are substantially lower for women than men: 59% compared to 79%. In measures of gender equality for secondary education enrollment specifically, Morocco ranks 113th of 130 nations with 53% of girls and 59% of boys participating (World Economic Forum, 2015). Although a difference of six percentage points may, at first glance, appear unremarkable, this disparity is quite severe. In fact, a majority of nations (78 of 130) examined by the World Economic Forum in 2015 enrolled *more girls than boys* in secondary education and an additional nine countries had achieved gender parity in secondary education enrollment. Only 11 nations in the world had gaps in secondary enrollment greater than six percentage points. As such, Morocco lags drastically behind most the world in opportunities for girls to participate in formal education beyond primary school.

Lower female participation in secondary education in Morocco has been attributed to a number of factors. In conservative MENA countries, women's rights are restricted compared to their male peers (Joseph, 2000; Keddie, 2007), and this has an impact on girls' abilities to fully participate in school. Even when girls have the opportunity to begin secondary education, they often drop out to fulfill gender role expectations, such as assisting at home with domestic tasks or marrying at a young age (Edwards, 2011). Girls may also drop out of school because they believe developing domestic skills will better prepare them for their futures (Naji, 2012). Furthermore, Naji (2012) argues that women and girls in rural regions of Morocco often see marriage as a more effective form of social mobility than formal education. While these factors may, in part, explain lower rates of female participation in secondary education, previous research has not considered the specific impact that Morocco's education system might have on disparate educational outcomes for women.

Morocco's Education System

As a result of French colonization from 1912 to 1956, Morocco's education system continues to be modeled on France's system (Freeman, 2010). Morocco follows a similar grading and exam system and students enter secondary education around age 15, after nine years of primary education. Primary education became compulsory in Morocco in 2008 as a part of the 2009-2012 National Education Emergency Support Program (Llorent-Bedmar, 2015). After completing primary education, students have the option to either enter the workforce or take an exam to place into one of three secondary education tracks. According to local educators interviewed in this study, science is commonly regarded as the most prestigious of these tracks, followed by economics (a program focused on business), and then literature. Although a student may opt for a less prestigious program than the one which he or she places

into, this is not common. However, a small number of students opt for technical or traditional Islamic studies instead of these three more common programs of study.

Theoretical Framework

This research draws on two theoretical frameworks to explain low female secondary education attainment in Morocco – feminist theory and teacher expectancy theory. As described in hooks' (1984) definition of feminist theory, women's educational aspirations, along with their ability to participate in education, might be limited by a traditional patriarchal system. Hooks defines the oppression of women as an absence of choice: in the case of education, this may result in women not having the ability to select what they study or the length of their formal education. This applies specifically to secondary education in Morocco as female students may not have the ability to choose their preferred area of study or track. As discussed previously, female students in Morocco are often forced to leave school before completing their degrees to fulfill other roles or responsibilities expected of women. Education is a central goal of feminism and hooks argues that the needs of women must be considered in education development and reform.

Informed by Brophy and Good's (1974) teacher expectancy theory, I also hypothesize that educators' expectations for male and female students vary, leading to different outcomes for their students. If teachers hold beliefs that their female students will not be as successful in school - or that formal education does not have the same value for them - they will interact with and instruct female students differently. When a teacher does not see the potential for a female student to achieve as much as her male peers, he or she will not respond to this student in ways that encourage her to be as successful as she might otherwise be. An educator's beliefs about appropriate career paths for men and women may result in students being persuaded to focus on particular areas of study, while disregarding other opportunities. Traditional gender roles may be perpetuated when teachers guide students towards fields or subject areas that are commonly thought to be best suited for a particular gender. Likewise, if a teacher believes that male students will receive greater benefits from formal education, he or she might devote more efforts towards supporting male students than female students. This hypothesis is supported by a large body of prior work on teacher expectations. For example, McKown and Weinstein (2002) found that elementary school teachers tend to underestimate the abilities of stigmatized groups, including girls and African American students. Similarly, Hinnant, O'Brien, and Ghazarian (2009) found that teachers tend to hold stereotypical beliefs about reading and mathematics performance for boys and girls, which have lasting effects on later student performance. It then follows that, if Moroccan teachers hold particular beliefs about student ability based on gender, this can impact how they interact with students, and in turn, influence students' educational trajectories.

In addition to utilizing these two theories, I was also open to the possibility that there might be some aspect of Morocco's secondary education system itself that was limiting to female students. The formal exam process to enter secondary education, along with the subsequent tracking system, might not provide as much utility for girls as boys. This hypothesis, along with key concepts from feminist theory and teacher expectancy theory, informed my work.

Methods

To determine the extent to which Morocco's education system contributes to gender disparities, I conducted a mixed methods case study to answer the following questions:

1. How do Moroccan students' education aspirations vary by gender in their final year of primary education?

2. How do Moroccan teachers and administrators describe expectations for male and female students?

3. How, if at all, do Moroccan teachers instruct and interact differently with male and female students in the classroom?

Research Site

Data collection took place in Tétouan, Morocco at a private K-12 school that will be referred to under the pseudonym Institute of Tétouan. Tétouan is located in northern Morocco along the Mediterranean Sea near the major city of Tangier. As of 2014, the city had 463,968 inhabitants and was the country's tenth largest city (Royaume du Maroc, 2014). The greater region, including the cities of Tangier and Al Hoceima, has an average literacy rate of 69% (Haut-Commissariat Au Plan, 2014). Female illiteracy rates are more than double that of male rates, at 41.8% and 20.5% respectively (Haut-Commissariat Au Plan, 2014). In Tétouan and Morocco as a whole, Islam is practiced by 99% of citizens with a small minority practicing Christianity, Judaism, and Baha'i (Central Intelligence Agency, 2016). Languages spoke in Tétouan include a Moroccan dialect of Arabic, Darija, as well as Berber, French, and Spanish.

Situated in a growing urban setting, the Institute of Tètouan is described by several educators as one of the highest performing schools in the city. Students begin studying English in first grade, much earlier than when most public schools begin offering the language, and many students also study English privately outside of school as well. The Institute of Tétouan only offers science, the most prestigious of tracks, at the secondary level. Most students go on to attend secondary school and completion rates are high.

A private school was selected as the research site for this study, in part, due to its accessibility. In recent years, foreign researchers have faced increasing governmental restrictions on research in public schools. Private school administrators, however, have the autonomy to permit research in their buildings. Although this particular research site does not mirror Morocco as a whole in regards to student demographics or outcomes, it offers a best-case scenario to study how Morocco's education system may contribute to gender disparities in secondary school completion. Because the majority of students at the Institute of Tétouan pursue secondary education, the site is ideal for studying how male and female students might experience this transition differently and how their decision-making processes might vary. By identifying any difficulties or barriers faced by a pool of students who are otherwise well positioned to be successful in furthering their education, this work can highlight larger systemic issues that may impact disparate enrollment rates across the country. Although it is the case that student outcomes and demographics at this site do not mirror Morocco as a whole, this school creates an opportunity to isolate other factors that may contribute to lagging female enrollment beyond those identified in previous research. A better understanding of the experiences of those who do participate in the secondary education system may lead to a broader understanding of the disparate outcomes by gender in the country.

Participants

The ninth-grade class at the Institute of Tétouan is the primary population of interest in this research. Data was collected in May 2015, when this group of 74 students was nearing the end of their final year of primary education. Studying students at this particular point in their education allowed insight into the decision-making processes and experiences of those making the critical transition from primary to secondary education. The sample included 41 female students and 33 male students. Additional participants included several teachers and administrators at the Institute of Tétouan who participated in interviews as well as students from Grades 7, 8, 10, and 12, whose classrooms were observed so as to ensure a diverse group of teachers was sampled.

Data Collection

Data were collected during a three-week time period at the Institute of Tétouan in the form of questionnaires, semi-structured interviews, and classroom observations from the participants described above.

Questionnaires. Seventy-three of 74 ninth grade students completed a questionnaire describing their aspirations for secondary education, university, career, and family. These questionnaires were used to address my first research question, examining students' educational aspirations and how they vary by gender. Students provided their age, gender, ability to speak and understand English, and name. Names were given so that a diverse pool of interview participants could later be identified and contacted. Students were asked which secondary education program they thought they were likely to attend, which they preferred if exams and family preferences were not relevant, and which they believed their family to prefer. Students were also asked whether they planned to attend university and if so, what they would study. Additionally, students shared their plans for career, marriage, and having children of their own.

Semi-structured interviews. In order to examine how educational aspirations vary by gender, I conducted semi-structured interviews with 12 ninth-grade students. Six boys and six girls who had expressed interest in a variety of secondary education tracks were selected, specifically including those who indicated that their families preferred that they attend a different secondary education program than what they were personally interested in. These participants also reported that their ability to speak and understand English was either "good" or "fluent." Table 1 provides a summary of the interview participants' secondary education preferences. Student interview participants were asked to expand upon their questionnaire responses, describing their plans for secondary education, career, and family. Participants were also asked about perceived norms affecting male and female peers in these areas.

Staff interview participants were selected primarily based on their ability to fluently speak English. Three English teachers, Mr. Awad, Ms. Isa, and Mrs. Maalouf, participated in semi-structured interviews along with one female French teacher, Ms. Essa, who was also a fluent English speaker. Lastly, one female administrator, Mrs. Bazzi, also fluent in English, was interviewed. All staff names are pseudonyms. These individuals were interviewed in order to address my second research question, which examines educators' expectations for male and female students. I asked educators about the secondary education tracks that they anticipated their male and female students would participate in as well as their future career and family outcomes. I also asked participants to identify any differences between male and female

students that they had observed. Learning opportunities afforded to students by gender were discussed. All interviews lasted approximately 15-20 minutes and were conducted during school hours at the Institute of Tétouan in a private office space. Interviews were audio-recorded and I transcribed these recordings upon completing data collection.

Classroom observations. A total of 15 classroom observations were completed at the school. These observations were conducted in order to answer my third research question, which asks whether there are any differences in how teachers interact with and instruct male and female students. Nine observations took place in ninth-grade classrooms, two in seventh grade, two in eighth grade, one in tenth grade, and one in twelfth grade. Although there was a balanced distribution of male and female teachers across the school as a whole, there were more male teachers in ninth grade. As a result, other grade levels were observed as well in order to achieve a more balanced sample. Nine of the 15 observations were of male teachers and six were of female teachers.

Observations lasted either one or two hours, depending on the length of the class period. Field notes recorded how frequently male and female students participated in class and how teachers interacted with male and female students. Other pertinent information such as male to female student ratios, classroom seating arrangements, and student behavior was also documented. A student assistant was available in each classroom to share curriculum materials such as textbooks, answer questions, and translate classroom interactions into English when needed.

Analysis

After data collection, I analyzed information gathered from questionnaires, interviews, and observations. I generated summary statistics for each questionnaire item by gender, in order to identify trends in students' secondary education preferences and other future plans. Interviews were transcribed and coded, in NVivo qualitative analysis software, for a total of 12 themes under the categories of feminist theory, teacher expectancy theory, and other observations of Morocco's education system. Although I anticipated some of these themes prior to conducting interviews, others emerged later in the data collection and analysis processes. Table 2 provides a summary of these themes.

Finally, I summarized field notes from classroom observations in the form of frequency counts of particular student and teacher behaviors. This captured the participation of male and female students as well as how teachers interacted with students of both genders. In my field notes, I identified and tracked a total of seven observable behaviors during each classroom observation by gender. Actual counts were compared with expected counts for each behavior, taking into consideration male to female ratios in each classroom. This method of tracking observable behaviors by gender was informed by a study on students' classroom participation in Norway (Aukrust, 2008). I also tracked each teacher's gender to identify any differences in classroom interactions that might be explained by the teacher's identity.

Limitations

Data were collected at the Institute of Tétouan in May. Due to the proximity to the end of the school year in late June and the focus on exam preparation, classroom instruction at this time may not have been conducted in the typical format or style. Students were focused on reviewing material studied throughout the year as opposed to learning new lessons. This may have an impact on the types of observable classroom behaviors I observed. Furthermore, due to

the upcoming exam period, interviews had to be kept brief so as to not infringe on instructional time for students or staff.

Language was a barrier at times during data collection and a formal translator was not used in this research. Although both student and staff interview participants were proficient and often fluent English speakers, English was not their first language. As a result, there is a possibility that particular nuances were lost as participants responded to interview questions. Because interviews were conducted in English, there were a number of instructors in the building as well as a small portion of students who were not able to participate. It may be the case that the views of English-speaking teachers and students at this research site are not representative of the school as a whole.

Additionally, with some classes largely conducted in Arabic and French, as an English-speaking American researcher, I could not capture all of the specifics of the classroom interactions I observed. Classroom observations relied heavily on the frequency of particular behaviors as opposed to the specific language used by students or teachers in their exchanges. Because a majority of my classroom experiences, both personal and professional, have been in Western classrooms, the lens through which I viewed these observations may be different from that of individuals more familiar with Moroccan schooling experiences.

Findings

Secondary Education Aspirations by Gender

To address my first research question, on how educational aspirations vary by gender, students completed questionnaires and participated in interviews. Questionnaire responses identified any variation in secondary education aspirations by gender and are summarized in Table 3. For each questionnaire response, a two-sample test of proportions was conducted to identify any statistically significant differences in the proportions of male and female students responding to each question. Only one item was found to have a significant difference between male and female students. The portion of male students preferring to pursue a technical program was higher than that of female students ($p<.05$). While this was the only item that was statistically significant, there were a number of other items with proportionally different response rates by gender. For example, 17% more female students stated that they preferred to study science ($p=.131$) and 14% more male students stated that they preferred to study economics ($p=.155$). More boys stated that they intended to attend university (100% vs. 93%, $p=.118$) and more girls stated that they intended to have children (95% vs. 84%, $p=.122$)

Questionnaire findings indicate that, if given the choice, students were interested in studying a variety of programs in secondary school. Yet despite these varying interests, the majority of students, regardless of gender, anticipated that they would study science the following year and that this was the preference of their families as well. For example, 17% of girls stated that they would study science the following year even though they actually preferred a different program of study. Female students who did not indicate preferences for science instead specified an interest in economics or literature. The difference between preferred and actual plans of study was greater for boys – 25% of male students stated they would study science even though they preferred to study economics, literature, or technical programs instead. Students were interested in similar jobs, stating that they would generally like to be doctors, engineers, or to work in business. A majority of students plan to marry around age 25 and have children around age 28.

Educators' Expectations for Male and Female Students

My second research question, exploring the secondary education expectations of teachers and administrators for male and female students, was answered through interviews with faculty members of the Institute of Tétouan. In these interviews, two major themes emerged: educators shared their observations of shifting gender expectations for women and also spoke candidly about differences they have observed in their male and female students.

Changes in gender expectations over time. Educators described changing roles of women and girls in Moroccan society and the impact of this on female students' educational pursuits. A statement made by an English teacher, Mr. Awad, regarding this female pursuit of education, captures this theme: "Life is very hard and they don't want to be like their mothers and grandmothers, you know, spending a lifetime at home cooking for their husband. So they work harder." Mrs. Bazzi, a school administrator, echoed this sentiment, stating, "In this country we have lots of traditions, but we want to develop and be modern, and find our way." Having worked as educators for a number of years, both Mr. Awad and Mrs. Bazzi were able to reflect on the changes they have observed since they were students themselves. Both recalled how the outcomes of their female peers looked very different than those of their current students. Several interview participants recalled female classmates leaving school to marry before completing their secondary education. In recent years, however, they have observed that female students have other opportunities available to them outside of traditional domestic roles. For example, Mrs. Bazzi spoke to the fact that it is becoming more common for female students to leave home to attend university, often attending a university in another part of Morocco or, in some cases, leaving Morocco to study in Europe. In contrast, when she was a student herself, she remembered older relatives believing it was inappropriate for girls to leave home.

Identifying gender differences. All educators also spoke to differences they had observed in boys and girls as students and in other roles. Every interview participant described girls more positively than boys. Ms. Essa recognized differences in her students' work habits, stating, "I think that the girls study more than the boys because boys are busy all the time watching football and meeting with their friends." She described the girls in her classroom as taking their work more seriously and consulting with her more frequently about their grades and performance in her class. Mrs. Bazzi also spoke to women's abilities to juggle multiple roles as adults:

> I think girls are smarter than boys. For example, women, they can do lots of things at the same time. You can be a mother, a doctor, a friend, lots of things and you do the things at the same time. Go to the supermarket, take care of your children, take care of your job, you can do a lot of things at the same time, and it's easy for you. But a man, never, never.

Both educators identified female students' efforts to confront gendered expectations, and going further with their education than they might have in the past. Although this may indicate that female students at Institute of Tétouan have strong work ethics and ambitions, these statements may also capture the pressure that women feel to work harder and take on more responsibility than their male peers in order to improve their standing in a patriarchal system.

Classroom Interaction and Instruction

To address my final research question, whether teachers' instruction and interaction differ with male and female students, I observed a range of classrooms led by both instructors of both

genders. As depicted in Table 4, there were no notable differences overall in the experiences of male and female students in the classroom, although there was some variation in specific observable behaviors. Teachers' interactions with male students appeared to be more focused on management, providing redirection for inappropriate behavior and individually checking in with students who appeared to be off task. Among classrooms led by male instructors, male student behavior was corrected more often than expected in about two-thirds of the observations. In classrooms led by female instructors, this was the case in half of observations. Girls were favored for receiving praise and assisting the teacher with tasks such as scribing on the chalkboard. Female students were also given other responsibilities more frequently, such as carrying attendance paperwork to the office or delivering a message to another teacher's classroom. Male instructors disproportionately selected female students for these tasks in four of nine observations and among female instructors, this was the case in two of six observations. Overall, all students were generally observed to be on-task and engaged in their lessons. The majority of instruction was teacher-led and focused on either whole-group responses or individual students being called on. While there was some variation in the frequencies of specific observable behaviors at the Institute of Tétouan, there do not appear to be any major differences in how teachers instruct and interact with their male and female students.

Urban Versus Rural Education Opportunities

Although I was not initially seeking out differences between students' urban and rural educational experiences in Morocco, this topic emerged in several interviews with students. When asked about gender differences in educational opportunities, students generally recognized that those differences were not present where they attended school but noted these disparities were much greater in rural parts of Morocco. As ninth-grade student Laila explained:

> In the countryside, they still have the idea that females should stay at home and take care of the children. But now in the city, the idea has kind of upgraded. The females should belong in work, not only at home.

Ninth-grade student Omar also spoke to general differences between urban and rural settings for both male and female students, stating: "The majority of the countryside of Morocco, their parents don't let them study because they don't know the benefits of studying and applying for jobs." Although urban areas of Morocco may be less influenced by patriarchal traditions, rural parts of the country are less modern in terms of women's abilities to participate in the formal education system. Students such as Laila and Omar exhibit awareness of their less oppressed, more privileged circumstances growing up in an urban setting.

Views on Secondary Education Tracks

Although not tied specifically to a particular research question, both students and faculty generally shared a set of common views about particular areas of study in secondary education. Across the board, there was a strong emphasis on studying science as a necessity for later success. Other programs of study are assumed to be for those less intelligent and less motivated. As ninth-grade student Hanan explained, "For example, if you were talking with someone and they asked you what you studied and you say literature, they are like "Oh, lazy girl."" Educators at the Institute of Tétouan echoed this concern. When English teacher Mrs. Maalouf was asked about a student's career prospects if he or she studies literature, she stated, "You don't have lots of things to do, perhaps you can be a teacher or a lawyer. That's the only

thing you can be." Interview participants tended to believe that studying science leads to more career opportunities and greater potential for high-paying positions. Ninth-grade student Fatima, however, disagreed, explaining, "We grow up thinking that science is the best idea. I think there's this stereotype going on that science should be the answer to everything, which I disagree with." Fatima's statement captured the tension that exists for many students between what they are told to value and their own personal interests and beliefs.

Discussion

This research drew on two theoretical frameworks – feminist theory and teacher expectancy theory – to explain gender disparities in secondary education completion. Although educators at the Institute of Tétouan did not report lower expectations for female students or engaged in overt inequitable classroom practices, the findings from this case study do necessarily apply to other schools in Morocco. This study does, however, reveal aspects of Morocco's education system that may negatively impact both male and female students. A traditional patriarchal system dictating the value of study areas and limiting personal choice may explain lower educational attainment rates for both genders. Stereotypical associations of men with careers in science as well as those of women with careers in literature-related fields may perpetuate the overall low rates of educational attainment in Morocco, as well as significant gender disparities in secondary education participation. Although students, parents, and teachers often idealize the study of science, this emphasis on one program of study being the best route for all students is likely harming the outcomes of many.

These findings have implications for parents and educators. Even prior to entering secondary education, students who participated in this study were very aware of the societal value placed on the study of science. Despite the fact that many students reported preferences for economics or literature, an overwhelming majority of students stated that they planned to study science and this was what their families preferred. If parents and educators provide more comprehensive information for students regarding future careers available to them across all areas of study, rather than strictly emphasizing science, students will be more empowered to choose an area of study that will allow them to be successful.

This research also has implications for policymakers. Changes to Morocco's secondary education system may be another way to increase the educational attainment for all students. Perhaps age 15 is not the optimal time to require students to make decisions about their educational focus and ultimately, their career trajectories. This is supported by research in Finland, which found that delaying tracking, especially for female students, was beneficial. Allowing students to wait until the age of 16, as opposed to 14 or 15, to select a secondary education program had positive outcomes for students (Pekkarinen, 2008). If Moroccan secondary education did not require students to specialize in a particular field at such a young age and instead offered a general course of study, more students, both male and female, might be successful in completing secondary education.

These findings also have broader implications for equity goals in low-income and lower-middle income nations. As global initiatives, such as the United Nations' Sustainable Development Goal 4 (United Nations, 2015), call for universal completion of secondary education, it is critical that education systems are equipped to ensure the success of all students. In order to achieve a goal of universal secondary education completion by 2030, there is much work to be done. From 2008 to 2014, secondary completions rates were 84% in high-income nations, yet only 43% in upper-middle income, 38% in lower-middle income, and 14% in low-income nations

(UNESCO, 2016). These rates are even more alarming for the poorest female students. Only 1% of poor girls in low-income nations completed secondary school during this time period (UNESCO, 2016). Given these low completion rates, it is critical that low and lower-middle income nations consider how they might strengthen their existing education systems and how traditional patriarchal systems may impact student outcomes. This research demonstrates the potential drawbacks of secondary tracking systems as well as the ways in which stereotypical gendered attitudes toward particular career paths may prove detrimental for students, especially girls. Going forward, nations striving to reach a goal of universal secondary education completion by 2030 might benefit from considering these findings.

Although this research examined students' anticipated plans for secondary education and their experiences in the classroom as they approached this critical transition, it is not known whether students' stated plans matched what they actually chose to do the following year or whether they completed their studies. A longitudinal study would allow for students to be followed into secondary education so as to identify other factors that might be contributing to inequitable educational attainment by female students. Further research would determine whether secondary teachers demonstrate any gender biases in either their expectations for students or instructional practices.

Conclusion

In this case study, I explored the education plans and aspirations of Moroccan students transitioning into secondary education. I also studied educators' expectations for male and female students and observed how instructors instruct and interact with their students. I found that teachers at the Institute of Tétouan instruct and interact with male and female students in an equitable way and speak highly of girls' work habits and aspirations. Nationwide, however, there still remains a gender gap in secondary attainment. I found that for both male and female students at the Institute of Tétouan, there is often a mismatch between students' preferred areas of study and that which family and society value. This emphasis on science, at the expense of other areas of study, may be explained to some extent by Morocco's traditionally patriarchal society. This preliminary research suggests Morocco's secondary education tracking system may play a role in lowering attainment rates for both men and women, however, future research is needed to further ascertain this correlation. Extending these findings to other nations, it would be worthwhile to consider how secondary education programs may impact gender disparities globally.

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Table 1. Student interview participants' questionnaire responses.

Participant	Gender	Age	Anticipated Secondary Education Track	Preferred Secondary Education Track	Family's Preferred Secondary Education Track	Self-Reported English Proficiency
Youssef	Male	15	Science	Technical	Science	Fluent
Hanan	Female	15	Science	Science	Science	Fluent
Mohamed	Male	15	Science	Economics	Science	Good
Amina	Female	15	Science	Science	Economics	Fluent
Malika	Female	15	Science	Literature	Science	Fluent
Fatima	Female	16	Economics	Economics	Economics	Good
Karima	Female	15	Literature	Literature	Science	Fluent
Omar	Male	15	Science	Science	Science	Fluent
Safouan	Male	15	Science	Science	Science	Good
Tariq	Male	14	Economics	Economics	Economics	Good
Laila	Female	15	Science	Literature	Science	Fluent
Ahmed	Male	15	Science	Economics	Science	Good

Note: Participants' names are pseudonyms.

Table 2. Summary of themes coded in interview transcripts with students and staff.

Theory	Theme
Feminist Theory	
	Family Influence in Educational Decisions
	Changes in Gender Roles Over Time
	Anticipated Secondary Education Plans
	Preferred Secondary Education Plans
	University and Career Aspirations
	Marriage and Family Aspirations
Teacher Expectancy Theory	
	Anticipated Outcomes for Students By Gender
	Observations of Educational Performance By Gender
	Beliefs About Secondary Education Tracks
Other Observations of Morocco's Education System	
	Urban vs. Rural Education
	Views of Secondary Education Tracks
	Secondary Education Exam Process

Table 3. Ninth-grade student questionnaire responses.

	Males n = 32	**Females n = 41**	**Gender Difference (p-value)[a]**
Anticipated Secondary Education Program			
Science	0.81	0.90	0.09 (.268)
Economics	0.13	0.07	0.05 (.456)
Literature	0.00	0.00	0.00
Technical	0.00	0.00	0.00
Preferred Secondary Education Program			
Science	0.56	0.73	0.17 (.131)
Economics	0.31	0.17	0.14 (.155)
Literature	0.03	0.10	0.07 (.269)
Technical	0.09	0.00	0.09 (.045)*
Family's Preferred Secondary Education Program			
Science	0.84	0.90	0.06 (.449)
Economics	0.13	0.07	0.05 (.456)
Literature	0.00	0.00	0.00
Technical	0.03	0.00	0.03 (.254)
Portion Planning to Attend University	1.00	0.93	0.07 (.118)
Career Preferences			
Doctor	0.44	0.46	0.03 (.825)
Engineer	0.28	0.22	0.06 (.544)
Business	0.16	0.10	0.06 (.449)
Portion Planning to Marry	0.94	0.98	0.04 (.416)
Average Age of Anticipated Marriage	25.36	25.30	0.06 (.909)
Portion Planning to Have Children	0.84	0.95	0.11 (.122)
Average Anticipated Age to Have Children	28.28	28.31	0.03 (.965)

* $p < .05$

a With the exception of "Average Age of Anticipated Marriage" and "Average Anticipated Age to Have Children", a two-sample test of proportions was used to determine whether response rates were significantly different between male and female participates. For the two items pertaining to age, a two-sample t-test was used instead.

Table 4. Dominant gender by classroom and teacher gender for observable classroom behaviors.

Observed Classroom Behavior	Classrooms with Male Teachers n = 9		Classrooms with Female Teachers n = 6		Dominant Gender Overall
	Male Dominated	Female Dominated	Male Dominated	Female Dominated	
Student Asks Teacher a Question	4	4	1	1	Equal
Student Responds to a Teacher's Question	5	3	2	3	Male
Student Called On By Teacher	3	4	1	4	Female
Student Helps Teacher	3	4	1	2	Female
Teacher Provides Individual Attention	3	3	4	0	Male
Teacher Praises Student	2	2	1	3	Female
Teacher Corrects Student Behavior	6	1	3	0	Male

Note: This table can be interpreted as follows, using the uppermost cell on the left as an example. In 4 of 9 classroom observations with male teachers, male students asked the teacher more questions than female students. Cells may not sum to the total number of classrooms observed due to a particular behavior not being present.

Appendix A. Interview Questions

Student Interview Questions

1) Tell me a little bit about what your school is like. What classes do you currently take? How long have you attended this school?

2) When will you take the high school exam?

3) How have you studied for the exam? How prepared do you feel?

4) Which high school program do you think you will qualify to attend?

5) If exam scores were not important and you could pick any high school program, which one would you attend? Why?

6) Which high school program does your family want you to attend? Why?

7) What are your plans for university?

8) What are your plans for a job when you are finished with school?

9) What are your plans for having a family of your own someday?

10) What do you think other boys and girls your age will study in university? What types of jobs will they have?

11) Is there anything else you would like to share?

Teacher and Administrator Interview Questions

1) Tell me a little bit about what your school is like. How long have you worked here and what is your position? Did you teach anywhere else previously? What were those experiences like?

2) What are the typical outcomes for students at your school?

3) What percentage of boys in your school do you think will attend the technical program for high school? The science program? The literature program? The economics program?

4) What percentage of girls in your school do you think will attend the technical program for high school? The science program? The literature program? The economics program?

5) How do students at your school prepare for the exam for high school? (For teachers who have experiences at other schools: How does this compare to other schools you have taught in?)

6) Can you describe any difference you have noticed in how boys and girls from your school prepare for high school? University? Jobs? Having families?

7) In general, do you think teachers in Morocco give boys and girls the same opportunities to learn? How does this compare to how teachers at your school work with students?

8) What are the most common college and career outcomes for boys at your school? For girls?

9) Is there anything else you would like to share?